

South African Thysanoptera - 9.

by

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Suborder TEREBRANTIA

Family THRIPIDAE

Sericothrips formosus spec. nov. (Figs. 1—4, 14, 15).

Female (macropterous). Length (distended) 1.1—1.2 mm. *Colour* variegated, brown to black, grey and yellow: pronotum and abdominal segments v and vi largely yellow; *head*: dorsal aspect between eyes and ocelli, and as far caudad as occipital line, yellowish brown to light brown, yellow behind occipital line, which is usually not as dark behind ocelli as it is behind eyes; laterally the area below each eye greyish yellow, but tinged with brown along eye and in anterior part, with the occipital line well-marked, brown; ventrally the head is yellowish brown, tending to become paler in posterior part behind the eyes; head not quite as dark as darkest parts, which are the mesosternum and segment vii of the abdomen; *eyes* deep purplish red, appearing black, ocellar crescents red; *antennae*: i and ii yellow, iii yellow, but tinged with pale grey, especially distad of the sense-cone, iv greyish yellow in about basal two-thirds, grey in distal third, darker than iii, v like iv but slightly darker, vi—viii grey; *mouth-cone* greyish yellow, its tip black in front, the labrum brownish yellow, palpi pale yellowish grey, transparent; *pronotum* yellow, but with a yellowish brown cloud on hind margin in the middle, this cloud irregular in outline, extending cephalad to about middle of median dorsal length of pronotum, its transverse diameter about 0.6 of width of pronotum, its colour paler than head; prosternum yellow, with a conspicuous transverse yellowish grey apodeme just behind the coxae; lateral aspect of prothorax yellow; *mesonotum* pale brown, slightly darker than head, lateral parts of mesothorax yellowish brown, mesosternum light brown to brown with a conspicuous dark brown median longitudinal apodeme; the median triangular part of metanotal scutellum pale brown, its lateral parts yellowish brown; laterally: lateral part of metasternum, meta-episternum, and posterior part of metaepimeron yellow, but two small sclerites just ventrad of metasternal spiracle are grey to pale brown, namely the second mesoepimeron and the anterior metaepimeron (sclerites named according to fig. 85 of Doeksen,

Med. Landb. Hoogeschool Wageningen 45, 1941); metasternum: its triangular medio-caudal plate yellowish brown laterally but a not sharply defined median area about as large as a metacoxa is greyish yellow, rest of metasternum yellow.

Colour of wings: fore wings conspicuously banded, as illustrated (fig. 15), with three grey areas, two pale bands, and a pale tip, which sometimes tends to become feintly grey; the boundaries of all the pale and dark areas are rather indistinct, therefore the lengths of the bands are difficult to measure; approximate measurements of the fore-wings of four females, including the holotype, gave the following figures: the scale is darkest, uniformly grey, with the wing in front of it also largely grey, this basal dark area occupying about 0.15 of the total wing length; then follows the first pale band, which is the palest, almost hyaline, and measures about 0.13 of wing length; the median dark area is almost as dark as the scale and is the largest of all the subdivisions, occupying about 0.33 of the wing length; the second pale band is often very slightly greyish, and occupies about 0.14 of total length; the third dark area is not quite as dark as the median, and measures about 0.19 of the wing length; the apical pale area is very short, measuring about 0.06 of total length. The hind wings have a prominent longitudinal vein; they have the anal lobe pale grey and two other very feint grey areas corresponding to the dark bands of fore wings, the median and distal dark areas being recognized mainly by the fact that the vein is decidedly darker on them.

Legs: middle and hind coxae mainly brownish yellow, but with the posterior aspect darker, yellowish brown, fore coxae yellow tinged light brown on margins; all trochanters yellow; middle femora yellow but tinged with pale brown in distal half, especially on upper side; hind femora yellow in about basal one-third, the rest mainly light brown, the pale and dark parts merging imperceptibly; fore femora and all tibiae yellow, sometimes feintly tinged with pale grey; all tarsi yellow, their cups grey.

Abdomen: tergite i greyish yellow, slightly darker at sides on parts bearing microtrichia; ii—iv grey to light brown in about one-third of width on each side (the areas bearing the dense covering of microtrichia), their median third yellowish grey; tergites v and vi pale, their two lateral thirds yellow tinged feintly with grey, their median thirds slightly darker, greyish yellow; tergite vii yellow in front of antecostal line, brown behind it, the median part light brown, the sides brown to blackish brown or black, these being the darkest parts of the whole body; viii similar to dark part of vii; ix brownish yellow, with a darker tinge laterally especially in anterior half; x yellow; antecostal lines on ii—vii conspicuous, dark brown on ii—iv and vii, grey on median part of v and vi; sternites i—vi yellow, iii—vi each with two pairs of grey, dot-like apodemes, vii yellow on fore margin, posterior half light brown, darker at sides, viii light brown on each side, ix brownish yellow, x yellow, ovipositor brownish yellow.

Major setae of body and appendages, and also wing fringes appearing grey on surface, but becoming transparent with deeper focussing.

Internal coloration: in the series before me, all (except one taken in 1926) collected into 10 % alcohol plus 0.1 % Triton emulsifier (formula 10 % alcohol 100 cc., concentrated Triton 0.1 cc.), internal coloration not conspicuous; in the eyes it is purplish red, under the ocelli red, in the rest of the body more or less yellow or greyish yellow.

Sculpturing: integument minutely granulate, especially on darker parts; *head* between ocelli with about eight heavy, transverse, anastomosing lines, in front of anterior ocellus with more or less radiating lines, the surface between the lines (between ocelli and in front of them) with prominent wrinkles, lying more or less at right angles to the directions of the heavy lines, the lines about $2-3\ \mu$ apart, the wrinkles about $1.5\ \mu$ apart; behind ocelli and eyes about 15 transverse, anastomosing lines, the surface between them sometimes not wrinkled, sometimes feebly so; the occipital line (apodeme) not heavy, sometimes hardly recognizable, when visible it is about the longitudinal diameter of an ommatidium from the eyes, and takes the form of a darkening of two or three of the transverse lines; laterally, area between eyes and mouth-cone roughened by about ten more or less irregular lines running cephalo-caudad, occipital apodeme prominent; ventral surface feebly and irregularly roughened near antennae, but posterior part practically smooth; mouth-cone and palpi not sculptured; *antennae:* i with two or three transverse lines, ii—vi with only very feint indications of lines bearing the rows of microtrichia.

Pronotum with prominent transverse anastomosing lines, as illustrated (fig. 3); there are about 35—40 lines across the middorsal longitudinal line, in the anterior half of pronotum they are about $4\ \mu$ apart, and about $2\ \mu$ in the posterior half; whole surface of pronotum, except the foveae, with wrinkles, lying mainly cephalo-caudad, between the transverse lines, in anterior half the wrinkles are $2-6\ \mu$ apart, in the posterior half about $1\ \mu$; prothoracic epimeron, as seen on females mounted laterally, with 5—6 anastomosing longitudinal lines, with transverse wrinkles between them.

Mesonotum prominently sculptured like posterior half of pronotum, but with both lines and wrinkles slightly closer together; laterally: second mesoepisternum (*sensu* Doeksen) with dorso-ventral lines, and wrinkles between them, about like anterior half of pronotum, the second mesoepimeron smooth; mesosternum smooth but with a prominent median longitudinal apodeme; metanotum: the median triangular part of scutellum lined and wrinkled like mesonotum, the lines mainly transverse in anterior fourth, longitudinal elsewhere, the two lateral thirds of scutellum with longitudinal lines but not wrinkled; anterior metaepimeron subreticulate, rest of lateral aspect of metathorax and metasternum smooth, except for fine lines bearing the rows of microtrichia.

Legs: fore coxae with many fine transverse lines, middle and hind coxae also partly roughened, all femora and tibiae with many transverse lines, close together, bearing rows of microtrichia, tarsi practically smooth.

Abdomen: tergites ii—vii with prominent heavy antecostal lines, bearing more or less well-developed small cephalic knobs; on the intermediate tergites the antecostal lines are situated about $21\ \mu$ from anterior margin; laterally, on iii—vi the lines are usually broken, after which they continue in a broad curve caudad to about the middle of the lateral margins of the tergites (fig. 4); segment ix feebly subreticulate dorsally and laterally; no other sculpturing on abdomen except fine lines bearing microtrichia.

Head: owing to the length of the mouth-cone, many of the mounted specimens have the head tilted forward to a greater or lesser extent (fig. 1), therefore the position of the head should be noted in giving measurements; in 9 ♀♀ with the head not tilted, ranging in size from small to large on the basis of length of hind tibia, the head length varies from 95 to $109\ \mu$ and the greatest width, which is across the eyes, from 127 to $131\ \mu$, giving a ratio L./W. of 0.7—0.8; in 5 ♀♀ with heads tilted forward, ranging in size from small to large, the figures are L. 56—92, W. 125—133 μ , ratio L./W. 0.4—0.7. In females with heads tilted forward the head is 0.6—0.7 as long as pronotum, in one not tilted, 0.9. The ratio head W. across eyes / W. at base is 1.1; the cheeks converging slightly and evenly from eyes to base. Interantennal space slightly narrower than width of segment i of the antennae.

Eyes large, bulging, coarsely faceted, the ommatidia circular to sub-circular, somewhat smaller and slightly separate dorsally at inner hind angles, larger and contiguous ventrally, none of them retaining a yellow colour after treatment with NaOH; eyes sparsely setose; in heads not tilted forward the dorsal length of eyes is somewhat longer than ventral length (up to $17\ \mu$ longer), but in heads tilted the ventral length is usually 2— $10\ \mu$ greater than the dorsal length; the dorsal interval is about 4 to $11\ \mu$ greater than the dorsal eye width, whereas the ventral eye interval is about 25— $30\ \mu$ greater than the ventral eye width.

Ocelli situated on a prominently raised hump, its top flattened in side view, its height about 9— $13\ \mu$ above dorsal surface of head, its length about $34\ \mu$; anterior ocellus directed cephalo-dorsad, posterior pair latero-dorsad. *Head setae:* four ante-ocellars in a transverse row between anterior ocellus and antennae, about 17— $25\ \mu$ long, pointing caudad; two inter-ocellars, midway between anterior and posterior ocelli, on lines joining their outer margins, about 13— $15\ \mu$ in length; two post-ocellars on a cephalo-caudal line through outer margin of posterior ocelli, about $21\ \mu$ long, and two or three very short setae close to and laterad of the post-ocellars; ventrally: four fine setae about 30— $40\ \mu$ long in a transverse row about $9\ \mu$ from antennal bases, the median pair about $10\ \mu$ apart, two other similar setae close to each eye, a pair about $20\ \mu$ from base of mouth-cone about 34— $51\ \mu$ long, their interval about $38\ \mu$, and two more pairs caudad and laterad of these; four very fine setae at about middle of mouth cone 25— $30\ \mu$ long and a shorter pair distad of these between bases of maxillary palpi; laterally: four or five

setae near eyes, more or less in a row parallel with eye margin, two near mouth-cone, and one near middle of area below eye, all fine, about 20—25 μ long.

Mouth-cone (fig. 2) heavy, moderately long, extending nearly across prosternum, rounded at apex, measured in μ on 4 ♀♀ mounted laterally and NaOH-treated, dorso-ventral length of head plus mouth-cone 212—219, length of head 120—127, length of mouth-cone 85—99, greatest width of mouth-cone (at about middle) 56—61. Measured on females with head tilted forwards, and mouth-cone pressed against the body, the mouth-cone extends about 120—162 μ caudad beyond posterior dorsal margin of the head.

Palpi measured on 3 ♀♀, one small, one large and one intermediate, mounted laterally and ventrally, L./W. in μ : maxillary segment i: 11—15/6, ii: 11—13/4, iii: 15—17/3, terminal setae 9—13, labial palpi 13—15/3, terminal setae 6—9.

Antennae as illustrated (fig. 14); segments iii and iv relatively short and broad; sense-cones on holotype, L./W. in μ : on iii, each arm 19/2, iv: 25/2, inner on vi: 21/1; inner apical seta on i about 21 μ long.

Pronotum 0.7 as long as its own width, setae as illustrated (figs. I, 3), the longest setae near hind angles not exceeding 34 μ in length, recumbent; there is no indication of a pronotal blotch, only a dark cloud, as described above.

Mesonotum: sclerotized plate of holotype 64 μ long and 136 μ wide between extremities, bearing 4 setae about 21 μ long, about 21—30 μ from hind margin, no setae in extremities, but a pair on margin about 9—15 μ long, situated about 13 μ in front of extremities; laterally: the second episternal sclerite of mesothorax bears 6 to 9 setae about 21 μ in length, while the second epimeron has one or two such setae. Mesosternal sclerotized plate (measured on a paratype ♀ with hind tibia 172 μ long): median length 76, median width 152, width between coxae 93, longest setae about 38 μ ; it bears about 14—16 pairs of thin, pointed setae situated mainly along and near all margins. *Metanotal* scutellum of holotype 64 μ long along mid-dorsal line, the four equidistant setae on its anterior margin 21—25 μ long; metasternal triangular plate (on paratype ♀ mounted ventral side uppermost, with hind tibia 172 μ long): greatest posterior width 165, median length 64, projection between coxae about 21 μ long, cephalo-caudal depth of its cephalic emargination only about 9 μ , five pairs of finely pointed setae on posterior margin, of which the longest about 42 μ in length, five or six additional pairs of similar setae, mainly in anterior half, its surface without microtrichia; laterally: all metathoracic sclerites densely clothed with microtrichia which are slightly shorter and finer than those on intermediate segments of abdomen; the posterior elongate part of metaepimeron bears two setae, the longest about 38 μ long, the metaepisternum only one about 21 μ in length; lateral parts of metasternum without setae.

Wings: Fore wing (fig. 15) long and narrow, its length about 8.1—8.4 times the width across scale and 18—20 times the width at middle, length of its setae on holotype: costa 27—38 μ , anterior vein 21—27 μ , posterior vein 36 μ , apical wing seta 59 μ ; setae counted on 20 wings of 10 ♀♀: costa (excluding the apical) 21—27, fore vein with a total of 16—19, usually spaced as follows: 3 at base, then a group of 9—13, and 2 plus 2 more widely spaced in apical part; posterior vein with one or two setae near apex: out of 40 wings, on 20 ♀♀, 13 have one, while 27 have 2 setae; scale usually with 4 on vein in distal half, sometimes only 3 (out of 22 wings 20 have 4, while 2 have 3 setae), and one seta on disc near base.

Legs without noteworthy features; hind coxae of holotype about 64 μ wide and 49 μ long, their interval 14 μ .

Abdomen long and slender; lengths of tergites i—x on a large paratype NaOH-treated: 35, 49, 64, 71, 71, 71, 71, 49, 56 and 56 μ ; *microtrichia*: dorsally, on i only on about 0.14 of dorsal width, on each side, on ii—vi on about 0.3 of dorsal width at each side in a dense pubescence, extending over full length of tergite, leaving the median 0.4 of tergite glabrous except for a sprinkling of microtrichia at middle on antecostal line, increasing in extent caudad to tergite vi, which has about one-third of median 0.4 bearing a sparse covering of microtrichia; vii and viii have more or less the whole tergite bearing microtrichia, but they are not as dense on median part as at sides; ix without, x with only 10—20 microtrichia; laterally, all parts of segments i—vii with a dense covering of microtrichia, on viii a small glabrous patch cephalo-ventrad of the spiracle, ix and x glabrous; sternites ii and vii more or less completely covered with microtrichia, but not as dense nor as large as those on sides of tergites; on sternites iii—vi approximately the posterior half bears microtrichia, leaving the anterior half bare.

Combs: dense combs with teeth about 15—17 μ long on sides of tergites i—viii behind the areas bearing microtrichia; median parts of tergites i—v without combs, vi with a ragged comb of short teeth, vii and viii with good median combs more or less like those at sides; sternites ii—vii without combs as seen in ventral aspect, but on laterally mounted specimens weak combs, each with only about 5—15 short teeth, are seen at lateral extremes of hind margins on iv—vii. *Setae:* a pair of median dorsal setae on tergites ii—vii, situated close to antecostal lines, measured on holotype, followed in parentheses by their intervals: 25(11), 25(15), 30(17), 47(32), 51(40), 53(40) μ ; three to four shorter pairs of additional setae in the microtrichia areas on tergites ii—vii; tergite viii with 5 pairs, the median dorsal 51—53 μ long and 23—36 μ apart; tergite ix with two pairs about at middle of its length, the median pair further apart than those on viii, and five pairs in a transverse row behind them 42—59 μ long; tergite x with four setae about 51—55 μ long and four finer shorter setae behind them, the tergite not split dorsally. Sternite setae; pointed setae, about 34—47 μ in length, on

hind margins only, no accessories on discs; ii bears 3 pairs, iii—vii usually have 4 pairs each, but sometimes there are 5 pairs on iv, v or vi:

Dorsal pores: a pair of pores on tergites ii—vii, about 10—15 μ caudad of antecostal lines, their interval about 59—76 μ .

Size. Owing to the length of the mouth-cone, and consequent tilting of the head in mounted specimens, head length is not a satisfactory criterion for size. The hind tibiae were measured on 77 ♀♀ in order to determine the range of size; the shortest measured 148 μ and the longest 186, while 54 fell in the group 169—176 μ .

Measurements of holotype (female No. X.1015—1, of intermediate size) in μ , followed in parentheses by the ranges of this plus two paratypes, No's. X.1015—2 and —3, the smallest and largest, both NaOH-treated: Length (distended) 1177(1054—1200); head L. 95 not tilted, W. across eyes 131, across cheeks 119; eye: dorsal L. 53(47—55), ventral L. 55(—57), dorsal W. 38 and 42(38—42), interval 51(44—), ventral W. 32 and 36(32—36), interval 64(59—); ocelli: anterior to posterior 11(9—13), interval of posterior pair 21(21), diameters longit./transv. anterior 4(4)/11(—13), posterior 13(11—15)/6(—9); pronotum L. 110(101—114), W. 157(151—), setae: median near anterior margin 25(25), anterior angular ?(25), mid-lateral 21 and 25(—30), discals 23(21—25), posterior angular 13(9—), longest near this on hind margin 30(25—34); mesothorax W. 197(—205), metathorax W. (behind notch) 186(183—); fore wings L. 654(615—), W. across scale 78(76—), at middle 32(—34), W. 80 μ from apex 30(27—), fringe L. anterior 169(141—), posterior 339(338—); legs L./W. ff. 113(99—)/40(38—42), ft. 113(109—123)/34(32—), fta. 71(64—)/17(—19), hf. 155(120—)/32(—34), ht. 176(148—186)/27(27), its spurs 21(17—23), hta. 92(78—99)/19(17—); abdomen L. 739(662—754), W. 254(197—).

Antennae: Total L. 275(247—)

Segm.	L.	W.	Segm.	L.	W.
i	21(19—)	25(23—);	v	42(38—),	17(17).
ii	34(30—)	25(25) ;	vi	51(47—),	15(15).
iii	42(38—44),	21(21) ;	vii	11(9—),	6(6) .
iv	49(42—)	19(19) ;	viii . . .	15(15)	, 4(4) .

Material studied: 150 ♀♀ mounted on slides in Canada balsam, collected by the writer in the TRANSVAAL; 149 ♀♀ (No. X.1015) including the holotype taken on *Ipomoea wightii* (Wall.) Choisy at the Entabeni Forest Station, about 25 miles east of Louis Trichardt on 29th April 1957, and one ♀ "on tree foliage", De Hoek Forest Station near Haenertsburg, 7th July 1926.

In Hartwig's key to the species of *Sericothrips* Haliday 1836 (1952 Un. S. Afr. Ent. Mem. 2(11), pp. 402—410) *formosus* spec. nov. runs to the couplet 71(70). It differs from *mundus* Hartwig 1952 *inter alia* as follows: hind margin of sternites ii—vi without a median comb; tergite vi with a

weak comb on hind margin; pronotal blotch not differentiated; pronotal sculpture coarser in anterior half than in posterior; mouth cone extending only about 120—162 μ beyond posterior dorsal margin of head, when pressed against prosternum, as compared with about 212—226 μ in *mundus*.

From *variabilis* (Beach 1896) the new species differs in having no pronotal blotch, the setae on the anterior vein of forewing irregularly spaced in distal half and antennal segment i and ii about as pale as iii. The new species resembles *varius* Moulton 1941 rather closely in colour and in measurements but Moulton's description is so inadequate that a satisfactory comparison is not possible; *formosus* apparently differs in having the basal two-thirds of antennal iv yellow and the distal third grey, instead of vice-versa, and in lacking the brown colour at middle of tibiae.

The North American *baptisiae* Hood 1916 differs from *formosus*, *inter alia*, in having a well developed pronotal blotch, and combs on median parts of hind margins on sternites ii—vi of the abdomen. *S. paraensis* Hood 1954 from Brazil is very similar to the new species in coloration except that segment x of abdomen in the latter is brownish yellow instead of brown; other differences are that *paraensis* lacks setae on the second vein of fore wing and probably also has no wrinkles between the striae on the pronotum. The differences between *formosus* and *Sericothrips lepidus* spec. nov. will be found below, at the end of the description of the latter. The new species has been compared with all other species of *Sericothrips* recorded in the literature.

***Sericothrips lepidus* spec. nov.** (Figs. 5—7, 10—13).

Female (macropterous). Length (distended) 1.0—1.1 mm. *Colour* variegated, dark brown, grey and yellow: pronotum yellow, abdominal segments iii—vi largely yellow; *head*: dorsal aspect yellowish brown on ocellar hump, yellow in front of and at sides of hump, as well as behind hump in front of and behind occipital line, which is a rather conspicuous light brown line; eyes so deep red as to appear black, ocellar crescents bright red; ventral and lateral aspects of head yellowish brown to light brown, paler than dark brown parts such as meso- and metasternal plates; *antennae*: i and ii yellow, very feintly tinged with grey, iii pale grey, tinged somewhat darker in about distal half, pedicel and a basal area about equal to it practically yellow, iv darker than iii, pale grey basally, becoming imperceptibly darker towards apex where it is as dark as v, v—viii grey; *mouth-cone*: labrum brown, black at apex, other sclerotized parts grey to brown, palpi pale grey; *pronotum* uniformly yellow with the striae and wrinkles very feintly grey, prosternum yellow; *mesonotum* grey to pale brown in anterior half, paler posteriorly, especially in the middle, the striations grey, lateral sclerites of mesothorax grey, becoming paler, greyish yellow in front of mesocoxae, sclerotized plate of mesosternum brown to dark brown with a prominent median black apodeme extending cephalo-caudad; *metathorax*: scutellum (the anterior heavily sclerotized plate of metanotum) brown to dark brown, rest of dorsal aspect yellow with a few grey lines, lateral aspect yellow, ventrally the sclerotized metasternal plate brown to dark brown, rest of ventral aspect yellow.

Colour of fore wings as illustrated (fig. 12); there is a grey band at extreme base, on scale and in front of it, extending as far as the middle of the length of the scale, then a conspicuous clear band occupying about one-fifth of total wing length, followed by the darkest area, which is about as dark as segments v—viii of the antennae, and extends over about one-fifth of wing length or a little more, the basal margin of this dark area fairly clearly defined, but its distal margin fading imperceptibly, the distal half of the wing being lightly shaded with grey, somewhat darker along the anterior vein, paler between this and posterior margin, and becoming generally paler towards apex; hind wings clear, except for a very narrow dark band more or less at position of base of median dark band of fore wing, and a prominent dark median vein extending from base almost to tip. *Legs*: all coxae brown, the anterior pair yellowish brown, middle pair darker, brown, and the hind pair darkest, dark brown; all trochanters yellow; all tarsi yellow but with an apical brown patch about 9—11 μ long basad of arolium; fore femora and tibiae yellow, indistinctly and feintly tinged with a trace of grey; middle and hind femora usually brown, with basal one-eighth to one third yellow and extreme apex also very briefly yellow, but sometimes middle femora largely yellow with a brown tinge in about distal two-thirds, hind femora usually darker than middle femora; middle and hind tibiae greyish yellow except basal one-eighth to one-seventh which is yellow, and somewhat paler towards apex, middle tibiae often slightly darker than hind tibiae.

EXPLANATIONS OF FIGURES.

Sericothrips formosus spec. nov.

- Fig. 1—♀, paratype, No. X.1015—4, head and prothorax.
- 2—♀, paratype, No. X.1015—5, lateral aspect of head.
- 3—♀, paratype, No. X.1015—4, right half of pronotum.
- 4—♀, paratype, No. X.1015—7, lateral aspect of abdominal segments iii and iv, showing antecostal lines.

Sericothrips lepidus spec. nov.

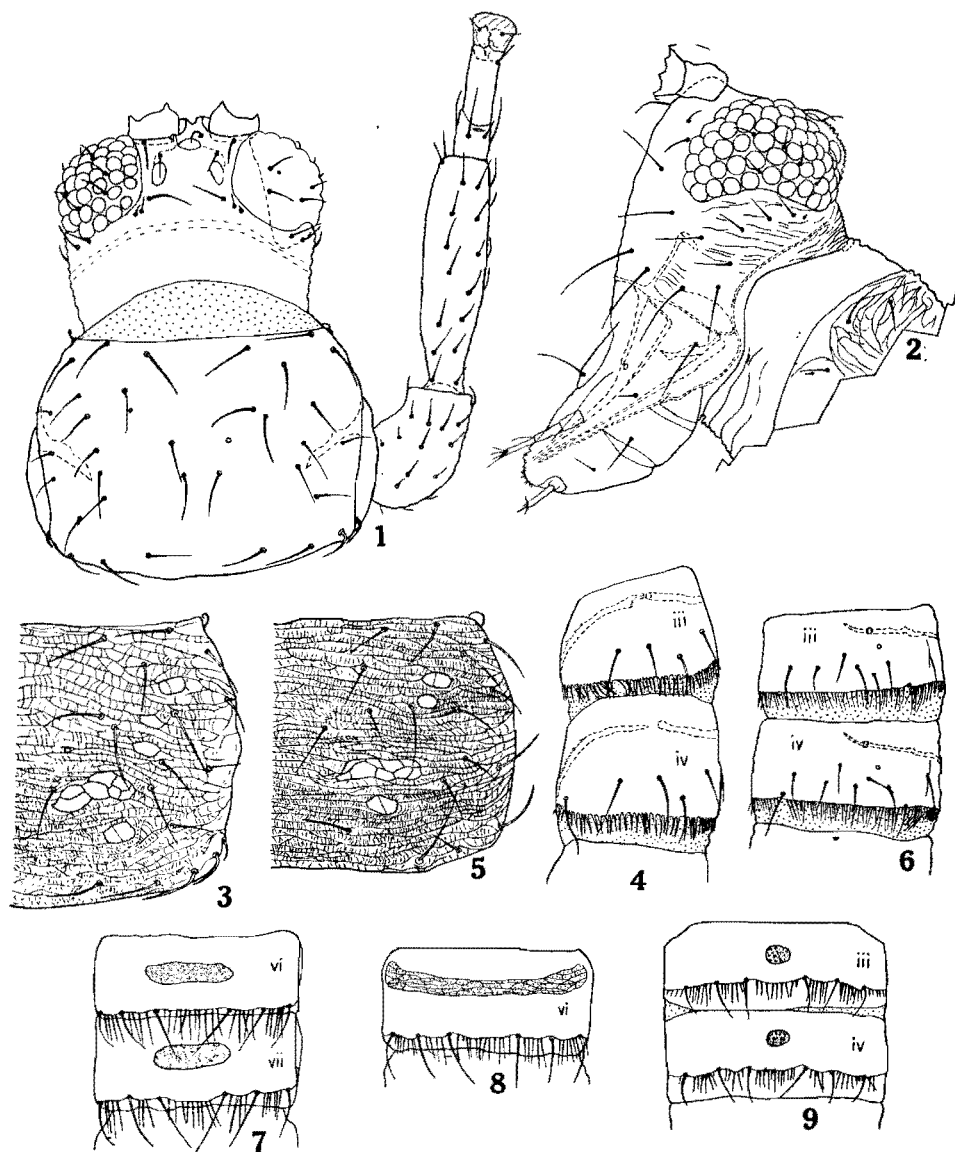
- Fig. 5—♀, paratype, No. X.947—4, right half of pronotum.
- 6—♀, paratype, No. X.1088—5, lateral aspect of abdominal segments iii and iv, showing antecostal lines.
- 7—♂, paratype, No. X.1088—4, abdominal sternites vi and vii, showing glandular areas.

Sericothrips spadix Hartwig

- Fig. 8—♂, No. X.1053—1, abdominal sternite vi, showing glandular area.

Sericothrips abditus Hartwig

- Fig. 9—♂, paratype, abdominal sternites iii and iv, showing glandular areas.
- Figs. 3 and 5, as well as 4 and 6, drawn to same scale of enlargement. Microtrichia omitted from figures 4 and 6—9.
- Figs. 1—9: Mrs. M. J. Meyer del.



Abdomen: tergite i grey at sides in about one-fourth of width, rest yellow; ii grey to brown in about one-third on each side, that is in the areas bearing microtrichia, its middle greyish yellow; tergites iii—vi largely yellow, but with irregular grey clouds on antecostal line on each side, these clouds about one-third as long as tergite on iii, much smaller on iv and v and scarcely noticeable on vi; about the median third of tergites iii—vi greyish yellow, distinctly darker than lateral thirds behind the clouds; tergite vii brown to dark brown as dark as meso- and metasternal dark plates, from antecostal line caudad, yellow in front of the line, tergite viii also brown but usually tending to become yellowish brown dorsally; tergites ix and x yellow, the former tinged more or less with brown, especially at sides anteriorly; antecostal lines conspicuous on tergites ii—vii, brown on ii and vii, yellow to greyish yellow on iii—vi, the two pairs of knobs on these lines well-marked and darker than the lines; sternites iii—vi yellow, each with two conspicuous yellow to grey pairs of dot-like apodemes, sternites vii and viii largely brown, ix yellow tinged with light brown, x yellow. *Major setae* of body and appendages and wing fringes transparent, yellow to feintly grey.

Internal coloration: except for red tissues under eyes and ocelli, the internal parts are colourless or yellow to grey; all the specimens were collected into weak alcohol, as described under *S. formosus* above.

Sculpturing similar to that described above in *formosus* spec. nov., with these differences: on head (fig. 13) the transverse lines between ocelli weaker and fewer in number, in some cases absent, also the lines in front of anterior ocellus not radiating but irregularly transverse; occipital line heavy, confluent with posterior margins of eyes, about ten transverse lines behind it, weaker than in *formosus*; on pronotum (fig. 5) there are about 45—50 transverse lines across the middorsal longitudinal line, approximately equidistant in anterior and posterior half, about $2\text{--}4\ \mu$ apart, all these lines nearly straight, not tending to being arched in anterior half as in *formosus*, the wrinkles about equally dense on whole of pronotum, about $1\text{--}4\ \mu$ apart; only the anterior apodeme of pronotal blotch developed, nearly straight, situated about $5\text{--}8\ \mu$ in front of middle of pronotum; second mesoepisternum not wrinkled between lines over whole surface, about one-half of it towards ventral and anterior margins without wrinkles; *abdomen:* the antecostal lines of segments iii—vi are not broken, laterally, they curve slightly cephalad at apex, and end about $45\text{--}55\ \mu$ from lateral margins of tergites (fig. 6).

Head: since the mouth-cone is very long, nearly all the mounted specimens have the head tilted well forward; unless stated otherwise, the ratios and measurements given for this species are based on specimens with such tilted heads. The head length is only 0.4 of its greatest width, which is across the eyes and is 1.1—1.2 the width across the cheeks; head length is 0.5 of the pronotum length; cheeks converging slightly towards base, where width is about $4\text{--}8\ \mu$ less than just behind eyes. Interantennal space about half the width of segment i of the antenna.

Eyes large, prominent, bulging, sparsely setose, the ommatidia mainly circular, two or three near posterior ocellus not quite touching one another, rest contiguous, on ventral aspect becoming more or less hexagonal, five on ventral aspect of each eye retaining a yellow colour after treatment with NaOH. *Ocelli* situated on dorso-lateral edges of a rather prominent hump that is about $30\text{--}32\ \mu$ long and about $11\text{--}13\ \mu$ high as measured on females mounted laterally. Eyes and ocelli measured in μ on a paratype female of about same size as the holotype, NaOH-treated: eye dorsal L. 44, ventral L. 55, dorsal W. 38 and 44, interval 59, ventral W. 40 and 32, interval 68; ocelli: distance anterior-posterior 9, interval posterior pair 27, diameters longit./transv. anterior $4/11$, posterior $11/9$. *Head setae*: four anteocellars about $15\text{--}25\ \mu$ long, not in a straight transverse line, the median pair (as seen on a head not tilted forward) about $4\ \mu$ in front of anterior ocellus, the outer pair on a transverse line passing through its middle; two inter-ocellars about $15\ \mu$ long situated further mesad than in *formosus*, on a line joining anterior edge of posterior ocellus with hind margin of anterior ocellus; one post-ocellar about $25\ \mu$ long situated about $4\ \mu$ caudo-laterad of each hind ocellus, recumbent and pointing mesad; ventrally, a transverse row of four setae about $13\ \mu$ from antennal foveae, the median pair about $13\ \mu$ apart and $25\ \mu$ long, two similar pairs near inner hind angles of eyes and three pairs near base of mouth-cone, the inner pair about $34\ \mu$ long and their interval also about $34\ \mu$.

Mouth-cone heavy, very long, about $3.2\text{--}4.0$ as long as head, when measured from dorsal posterior margin of head on females with mouth-cone pressed against the body and head tilted forwards; palpi measured in μ on holotype and two paratypes, L./W.: maxillary segment i: $21(17\text{--})/6(6)$, ii: $17(17)/4(4)$, iii: $21(21)/4(3\text{--})$, terminal setae 13, labial palpi $17(15\text{--})/3(3)$.

Antennae as illustrated (fig. 11) the third and fourth segments relatively short and broad; measured on holotype: sense-cones on iii and iv, L./W. of each arm $21/2$ and $25/2\ \mu$, the inner apical seta on segment i about $21\ \mu$ long.

Pronotum 0.6 as long as its own width, and $1.8\text{--}2.1$ as long as head; setae as illustrated (figs. 5 and 10), discals about $17\text{--}25\ \mu$ in length, those at hind angles curved inwards, about $17\text{--}21\ \mu$, the third mesad from posterior angle recumbent, not exceeding $30\text{--}38\ \mu$ in length. Of the pronotal blotch only the anterior margin developed, as a practically straight transverse yellow line slightly cephalad of middle of pronotum and ending about $13\text{--}17\ \mu$ from its lateral margins.

Mesothorax: sclerotized plate of mesonotum of holotype $59\ \mu$ long and $136\ \mu$ wide between extremities, its setae similar to those of *formosus*; second episternal sclerite with $12\text{--}14$ setae as against $6\text{--}9$ in *formosus*; mesosternal sclerotized plate of holotype $64\ \mu$ long, $162\ \mu$ wide at middle and $102\ \mu$ wide between the coxae, its setae similar to those of *formosus*; *metathorax*: sclerites

measured on holotype: scutellum L. $57\ \mu$, inner pair of setae on anterior margin 27, outer $21\ \mu$ long; metasternal triangular plate: greatest posterior W. $901\ \mu$, median L. about $51\ \mu$, projection between coxae about $25\ \mu$ long, cephalic emargination very broad and shallow, its cephalo-caudal depth only about $3\ \mu$, its setae similar to those of *formosus*; chaetotaxy of lateral sclerites similar to that of *formosus*, except that metaepisternum bears two (rarely three) setae instead of one.

Wings: fore wing (fig. 12) long and narrow, its length about 7.3—7.8 times the width across scale and 16—19 times the width at middle; length of setae in μ on holotype and small paratype: costa 25—30 at base, 47—53 at apex, the terminal seta 74—76, anterior vein 17—21 at base increasing to 47 at apex, posterior vein setae 25—42 long; number of setae counted on 20 wings of 10 ♀♀ representing all three localities recorded below: costa with 21—27, usually 22 or 23, anterior vein with 3 at base, then an unbroken series of 13—15, and 2—4 more widely spaced in apical part, total 18—23, usually 18—20, hind vein (counted on 62 wings of 31 ♀♀) with 2 near apex, scale usually with 4 on vein, sometimes 5, rarely 6, and with one (rarely none) on disc near base.

Legs without noteworthy features; hind coxae of holotype and one large and one small paratype 59—61 μ long, and 64—76 μ wide, their interval 17—21 μ .

Abdomen moderately stout, its apex conical; lengths in μ of tergites i—x on holotype, respectively 21, 57, 59, 55, 72, 64, 64, 55, 53 and 55. *Microtrichia* present in a dense covering on sides of tergites i—vi; measured on holotype the microtrichia area on tergite i occupies 0.24 of total width on each side, leaving 0.52 of width bare in middle; on tergites ii—vi the median bare area is about 0.4 of width, with 0.3 on each side bearing microtrichia; but on iii—vi or iv—vi there is a more or less broken strip of microtrichia across tergite along antecostal line, increasing in extent caudad, until on vi

EXPLANATIONS OF FIGURES.

Sericothrips lepidus spec. nov.

Fig. 10—♀, paratype, No. X.947—4, head and prothorax.

11—♀, paratype, No. X.947—5, right antenna.

12—♀, paratype, No. X.947—5, right fore wing.

13—♀, paratype, No. X.947—3, head, not tilted.

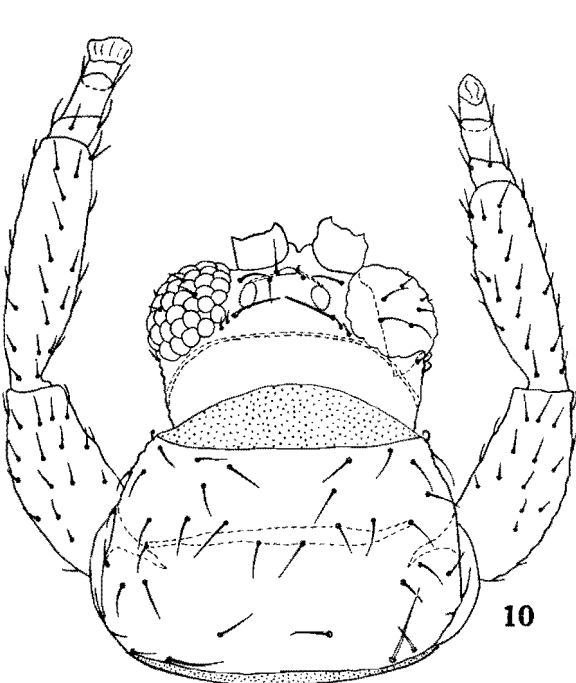
Sericothrips formosus spec. nov.

Fig. 14—♀, paratype, No. X.1015—6, right antenna.

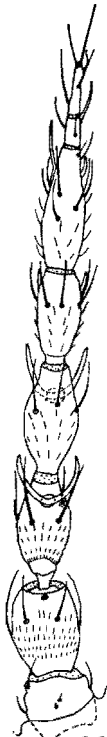
15—♀, holotype, No. X.1015—1, right fore wing.

Figures 11 and 14 drawn to same scale of enlargement.

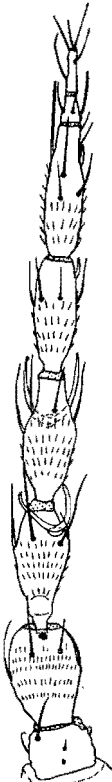
Figs. 10—15: Mrs. M. J. Meyer del.



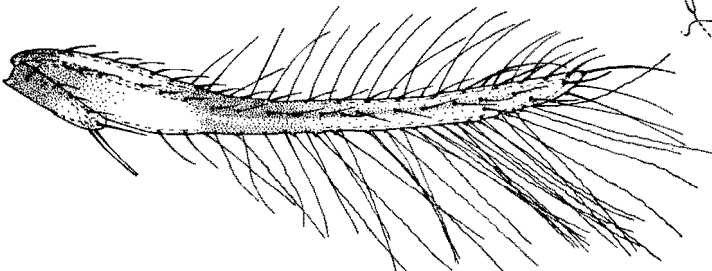
10



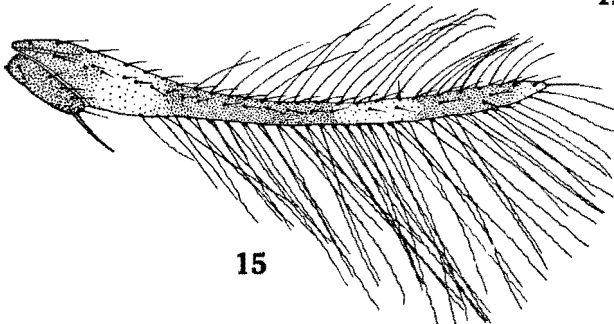
11



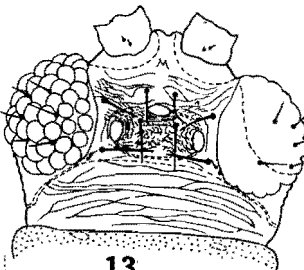
14



12



15



13

about half of bare area behind antecostal line is covered with microtrichia; tergite vii almost wholly covered with microtrichia, not quite as dense as on sides of iii—vi, viii also covered sparsely on posterior half, tergites ix and x without microtrichia. Laterally, all parts of abdomen densely covered by microtrichia, except a small patch cephalad of spiracle on viii, most of ix and the whole of x; on ix there is a small patch bearing microtrichia near hind margin between the large setae. Sternites ii—vii more or less completely covered by microtrichia, not quite as large nor as dense as those on sides of tergites; on sternites iii—vi a transverse cephalic band, about one-fourth as long as length of sternite, is without microtrichia.

Combs: tergites i—viii with conspicuous combs at sides behind areas bearing microtrichia, their teeth about 17—21 μ in length; median bare area of tergite i without comb, of ii—iv variable, sometimes without comb, or with 3—6 short teeth only, iv sometimes with a good comb, comb on v generally rather well developed, vi usually with a good comb, vii and viii with complete comb as long as at sides; on sternites ii—vi there are prominent combs right across hind margins, like those on sides of tergites, interrupted briefly at positions of the large posterior-marginal setae only; on the median third of sternite vii the comb is variable, sometimes present at middle of median third only, sometimes absent.

Abdominal setae: median dorsal pairs of setae on tergites i—vii, situated close to antecostal lines, measured on holotype in μ , followed in parentheses by their intervals: 21(6), 27(6), 27(9) 30(6), 30(9), 42(21), 42(30); on viii the median pair 42 μ long and 25 μ apart situated slightly in front of middle of disc; on ii—vii as seen from above, five to seven pairs of additional setae in the areas bearing microtrichia; ix with four equidistant setae in a row about at middle, 38—42 μ long, the inner pair 13 μ apart, five pairs near hind margin 42—61 μ long, the inner pair 11 μ apart, and a prominent lateral pair near hind angles 55 μ long; x with 4 large setae near apex, median dorsals of holotype 64 μ long, interval 9 μ , tergite not split dorsally. On *sternites* ii—vi pointed setae on hind margins only, no accessories on discs, two pairs on ii, three pairs on iii—vi, 34—42 μ long; vii with a median pair about 47 μ long near hind margin, and two pairs slightly longer at sides on disc. *Dorsal pores* similar to those of *formosus*.

Size: as in the case of *formosus*, length of hind tibia was used as the criterion for size; on 97 ♀♀ representing all three localities listed below, the range of hind tibia length was 183—215 μ .

Measurements of holotype (female No. X.947—1, of intermediate size) in μ , followed in parentheses by the ranges of this plus two paratypes, one of the smallest No. X.702—1 and one of the largest No. X.947—2; Length (distended) 1077(1031—1139), head (tilted forward) L. 49(—53), W. across eyes 137(129—142), least W. across cheeks 120(116—123); mouth-cone, L. from posterior dorsal margin of head 199(162—); pronotum L. 101(97—),

W. 169(159—172); mesothorax W. 222(197—), metathorax W. (behind constriction) 215(193—); fore wing L. 569(562—608), W. across scale 78(72—80), W. at middle 30(—38), W. 80 μ from apex 30(—34), fringe L. anterior 141(120—), posterior 324(316—); legs L./W. ff. 134(106—)/42(38—), ft. 120(99—)/34(—36), fta. 85(71—)/19(17—), hf. 155(141—162)/34(32—), ht. 197(183—212)/30(30), its inner apical spurs 21(17—), hta. 99(95—)/17(17); abdomen L. 662(631—708), W. 278(229—).

Antennae: Total L. 261(247—268).

Segm.	L.	W.	Segm.	L.	W.
i (whole)	19(17—21),	25(—27);	v	40(34—)	, 17(17).
ii	30(—34)	, 27(25—);	vi	47(40—49),	15(15).
iii	44(42—)	, 21(21);	vii	9(—11)	, 6(6).
iv	42(40—47),	19(—21);	viii	19(17—)	, 4(4).

Male (macropterous). Length (distended) about 0.9 mm. Smaller and more slender than the female, but very similar to it in colour and structure, with the following exceptions: the colour is generally paler, although the pattern is the same, but the male has the ventral and lateral aspects of the head yellow to greyish yellow, the mouth-cone paler, the middle femora and tibiae almost wholly yellow, and segment vii of the abdomen yellow; the orange-yellow testes are conspicuous and extend to about the anterior margin of segment vi.

Wings: fore wing setae counted on 12 wings of 8 ♂♂ gave the following ranges: costa 18—23, anterior vein total 16—20, scale 4—5 on vein and one on disc; while the ♀♀ always have 2 setae on posterior vein near apex, 75 wings examined on 38 ♂♂ gave these results: 2 setae on 67 wings, one seta on 7 wings, and 3 setae on one wing.

Combs on sternites: more or less complete combs are present in ♂♂ on the hind margins of sternites ii—viii, including the median third.

Glandular areas conspicuous on sternites iii—vii (fig. 7), somewhat variable in size, measured on 5 ♂♂ mounted ventral side uppermost, NaOH treated, L./W. in μ respectively 9—13/27—47, 11—13/30—51, 11—13/34—53, 11—13/38—51, 11—13/34—47.

Size: the length of the hind tibia of 53 ♂♂ (all taken near Pretoria) gave a range of 144—183 μ .

Measurements of allotype (male No. X.1088—1, of intermediate size) in μ followed in parentheses by the ranges of this plus two paratypes, the smallest and the largest, No's X.1088—2 and —3: Length (distended) 892 (846—923); head (tilted forward) L. 49(40—55), W. across eyes 123(110—127), least W. across cheeks 106(99—); mouth-cone: L. from posterior dorsal margin of head 157(144—); pronotum L. 89(76—), W. 148(141—), discal setae 13 and 17(17), postero-angular 9, longest on hind margin near posterior

angle 25(—30); mesothorax W. 190(169—); metathorax W. 176(158—183); fore wing L. 508(454—523), W. across scale 68(64—74), W. at middle 30(27—), W. about 80 μ from apex 30(25—), fringe L. anterior 127(99—), posterior 268(247—), legs L./W. ff. 95(—106)/38(34—), ft. 106(99—113)/32(—34), fta. 78(64—)/15(—17), hf. 134(120—)/30(27—32), ht. 169(144—183)/27(25—), its apical spurs 21(17—), hta. 88(71—92)/15(15); abdomen L. 539(523—554), W. 172(162—).

Antennae: total L. 236(222—243).

Segm.	L.	W.	Segm.	L.	W.
i (whole)	19(—21)	21(—23);	v	34(34)	15(13—17).
ii	30(30)	23(23) ;	vi	44(38—)	13(13) .
iii	38(36—42),	19(19) ;	vii	11(9—)	6(5—) .
iv	38(36—40),	17(17) ;	viii	17(13—)	4(3—) .

Additional ranges of measurements in μ of males treated with NaOH:

- (1) Three males with heads tilted forward, mounted dorsally: eye, dorsal L. 38—42, ventral L. 51—57, dorsal W. 34—40, dorsal interval 47—51, ventral W. 32—38, ventral interval 53—55; ocelli: distance anterior-posterior 11—13, interval of posterior pair 21—25, diameters, longit./transv. anterior 4/9—11, posterior 11/9; post-ocellar setae 17—21.
- (2) Three males mounted ventral side uppermost: palpi L./W.: maxillary segment i: 13/6, ii: 9—13/4, iii: 17—21/3; labial: 13—15/2—3.

Material studied: 145 ♀♀ and 87 ♂♂, mounted on slides in Canada balsam, collected by the writer as follows: NATAL: Tongaat, 26-x-1955, 4 ♀♀ (No. X.702) on *Rhynchosia stenodon* Bkr.f.; CAPE PROVINCE: Kidds Beach near East London, 28-iii-1957, 25 ♀♀ (No. X.947) on *Rhynchosia caribaea* DC.; TRANSVAAL: Pretoria, farm of Onderstepoort Veterinary Research Laboratories, 11-xii-1957, 116 ♀♀ and 87 ♂♂ (No X.1088) on *Rhynchosia memnonia* DC. var. *prostrata* Harv.

This beautiful new species differs from *formosus* spec. nov., described above, as follows: median comb on abdominal sternites ii—vi well developed, pronotal sculpture more or less uniform (compare figs. 3 and 5), abdominal segments iii and iv yellow, pronotum wholly yellow, middle and hind tibiae more or less dark, fore wings with only one distinct pale cross band.

In Hartwig's key (1952) *lepidus* spec. nov. runs to the couplet 39(37) but from there on it does not fit in well. It differs from *rutilus* Hartwig 1952 as follows: internal coloration not bright red, third antennal segment only about 1.8—2.2 as long as wide, pronotal blotch with only anterior margin distinct, sclerotized plate of metasternum scarcely emarginate anteriorly, whereas it has a very prominent deep triangular emargination in *rutilus*.

From *abditus* Hartwig 1952 the new species differs in having parts of the body dark brown, fairly complete combs on the median parts of tergites iv—vi of the abdomen, and much larger glandular areas on the abdominal sternites

of the male (compare figs. 7 and 9). The glandular areas, of sternites ii—vii, measured on one of Hartwig's paratype males of *abditus*, gave length $13\ \mu$, width $15\text{--}19\ \mu$.

The new species differs from *sativus* Hartwig 1952 in having the mouth cone much longer, extending on to the mesosternum, and in lacking microtrichia on most of the median third of abdominal tergites i—v. All other species of *Sericothrips* recorded in the literature have been found to differ from *lepidus* spec. nov.

Sericothrips spadix Hartwig.

1952 Un. So. Afr. Ent. Mem. vol. 2 part II pp. 398-402, figs. 60—62.

Further series of this species have been collected, as listed below. As stated by Hartwig, it is very similar to *occipitalis* Hood 1917, and may be a colour variety of the latter. On testing the morphological differences used by Hartwig, I found that they all overlap to such an extent that I cannot regard them as characters for differentiating between the two species.

The position of the ocelli depends to a large extent on the degree of tilting of the head; since the mouth cone is long in both species, most of the mounted specimens tend to have the head tilted forward. For comparing six females of each species with the head not tilted, I measured the following distances: (1) from outer margin of left posterior to outer margin of right posterior ocellus; (2) from a line through hind margins of the two posterior ocelli to anterior margin of front ocellus; (3) from anterior to posterior ocellus; and (4) between inner margins of the two posterior ocelli. In all four of these dimensions there was overlapping between the two species.

Abdominal setae: the longest setae on tergite ix in 8 ♀♀ of *spadix* varied from 57 to $68\ \mu$, and in 5 ♀♀ of *occipitalis* from 55 to $57\ \mu$. On tergite x the longest setae on 6 ♀♀ of *spadix* gave $64\text{--}68\ \mu$ on tergites $51\text{--}64\ \mu$ long, as against $55\text{--}61\ \mu$ in 5 ♀♀ of *occipitalis* on tergites $55\text{--}59\ \mu$ in length.

Sculpturing: after making detailed comparisons of the two species, I came to the conclusion that there is no difference between *spadix* and *occipitalis* in sculpturing on the dorsal, lateral or ventral aspects of both sexes. The same applies to the variability of the combs on the median parts of tergites iii—vi of the abdomen.

Glandular areas of the male. In *spadix* there are prominent glandular areas in the anterior half of tergites vi and vii, as illustrated (fig. 8); these areas are about $13\ \mu$ long on the mid-ventral line and about $131\ \mu$ wide, extending almost across the full width of the sternites. Identical glandular areas are also present on sternites vi and vii in *S. occipitalis*.

Size: the hind tibiae measured on 89 ♀♀ (63 from Heidelberg C.P. and 26 from Mtubatuba, Zululand) gave a range of $197\text{--}268\ \mu$ as compared

with Hartwig's 210—216 μ ; for 70 ♂♂ (62 from Heidelberg C.P. and 8 from Mtubatuba) the figures were 179—233 μ against Hartwig's 180—204 μ .

Colour: As regards the colour differences, my observations agree on the whole with those of Hartwig; if we are justified in regarding constant colour differences as reliable specific characters, *spadix* may be considered a distinct species, differing from *occipitalis* in its darker colour.

Of the two new lots of specimens of *spadix* listed below, 75 ♀♀ and 38 ♂♂ have been mounted without NaOH-treatment. All of these differ from *occipitalis* in having segment iv of the antenna, except for a very short yellowish area at base, as dark brown as v—viii, and in many cases segment iii is also nearly as dark as iv in distal half; in *occipitalis* segment iii is nearly wholly yellow, iv yellow in basal two-thirds and pale grey in distal third, v grey, paler in about basal third, vi—viii grey.

I cannot agree with Hartwig that the tibiae are as dark as the femora in *spadix*; in most of the specimens before me, including some of the paratypes, the tibiae are paler brown than their femora, and both femora and tibiae are briefly yellow at the knees; the fore femora are usually yellow in about their distal one-fourth. The fore tibiae are variable in colour; 83 ♀♀ (including 8 paratypes) and 38 ♂♂ were classified on the basis of fore tibia colour as follows: (i) fore tibiae light brown, somewhat paler than base of fore femora: 23 ♀♀ and 2 ♂♂; (ii) fore tibiae paler than in (i), brownish yellow: 35 ♀♀ and 13 ♂♂; (iii) fore tibiae yellow: 25 ♀♀ and 23 ♂♂.

Colour of abdomen: in *spadix* the first six tergites of the females, plus the anterior part of vii in front of antecostal line, are uniformly light brown (not dark brown), while vii (caudad of the antecostal line) viii and ix are dark brown, and x is somewhat paler than ix but darker than vi; antecostal lines of tergites i—viii dark brown. The males of *spadix* usually have tergites i—vii and x uniformly light brown, with viii and ix dark brown, i—viii having dark brown antecostal lines. But in 3 ♂♂ from Zululand (No. X.648—1, —2, —3) segments iv and v of the abdomen are yellowish brown, somewhat paler than iii and vi; these males are generally somewhat pale in colour, but they have antennal segment iv and the middle and hind tibiae dark. These three males therefore tend to vary in the direction of *occipitalis*, in which segments iv and v of the abdomen are conspicuously paler than iii and vi, being nearly wholly yellow.

Internal coloration: irregular dots and blotches of orange or red internal pigment are present, mainly in the thorax, in 20 ♀♀ and 4 ♂♂ from Heidelberg, Cape Province.

Geographical range and food plants of the two species *spadix* and *occipitalis*; only in one case have I collected one ♀ of *occipitalis* (No. X. 648—4) on the same plant with *spadix*, at Mtubatuba in Zululand. In all other cases our records show that the two species occur on different species of plants. *S. occipitalis* is known from the Union and from the Sudan, Nigeria,

Tanganyika and Rhodesia, but *spadix* has to date only been recorded from the Union. Both species have been collected in Pretoria, and from various localities in Zululand.

Material studied: 150 ♀ ♀ and 72 ♂ ♂, mounted on slides in Canada balsam, collected by the writer: ZULULAND: on the Umfolosi River near Mtubatuba, 23-x-1955, on *Lessertia brachystachya* DC., 26 ♀ ♀ and 8 ♂ (No. X.648); CAPE PROVINCE: near Heidelberg, 30-x-1957, on *Sutherlandia frutescens* R. Br., 124 ♀ ♀ and 64 ♂ ♂ (No. X.1053).

SERICOTHRIPS Haliday 1836.

Notes on Hartwig's key to the species (1952 Un. So. Afr. Ent. Mem. vol. 2 part 11, pp. 402—410).

The following alterations should be made in this key:

(1) The date of Haliday's original publication of the genus (p. 402) is 1836, not 1935.

(2) *S. reticulatus* Moulton (page 402) has been referred to *Anaphothrips* (*Prosopoanaphothrips*) *reticulatus* (Moulton); see: Moulton 1926, Pan-Pacific Ent. 3, pp. 22—23.

(3) *S. apteris* Daniel (page 402) is a synonym of *Anaphothrips secticornis* (Trybom); see: Hood 1927, Pan-Pacific Ent. 3, p. 173.

(4) *S. luculentus* Hood (page 403) should be *luculentus* Moulton; see: Moulton 1938, Rev. Ent. Rio de Janeiro 9, p. 376.

(5) *S. spinosus* Hood (p. 405): of this (?) species I have been unable to find any other mention in the literature, except that Hood refers to it in the first paragraph on page 153 of his paper in the Journal N.Y. Ent. Soc. 43, pp. 143—170, 1935. It seems probable that this reference of Hood's was a *lapsus calami* for *setosus* Hood 1927, which he mentioned in the same paragraph.

(6) *S. fasciatus* Hood (p. 409) should read *fasciatus* Moulton; see: Moulton 1938 Rev. Ent. Rio de Janeiro 9, p. 375.

A few species described before 1952 were omitted by Hartwig from his key, and some have been described since 1952. In the accompanying supplementary key I have included all but four of these, and the two new ones described above in this paper. The omissions are Girault's four Australian species, (in addition to the three mentioned by Hartwig there is a fourth: *Sericicothrips* (sic!) *diana* Girault 1929), which I consider inadequately described.

Supplementary key to some of the species of *Sericothrips* not included in Hartwig's key (1952).

1	Apterous or brachypterous	2
—	Macropterous	3

- 13(9) Fore wings with basal half greyish infumate, and apical half much paler (India) . . . *boerhaaviae* Seshadri and Ananthakrishnan 1954
- Fore wings with one or two pale cross bands (apart from pale apex) 14
- 14(13) Fore wings dark in about basal one-twelfth to one-sixth . . . 15
- Fore wings pale in basal fourth or fifth (Sumatra)
(= *Anaphothrips*) *plynopygus* (Karny) 1925
- 15(14) Fore wings with three dark cross bands, two pale cross bands and a pale apex; postero-angular setae of pronotum $64\ \mu$ long by $3\ \mu$ in diameter, black, conspicuous on the white or yellow pronotum. (Brazil) *hemileucus* Hood 1952
- Fore wings with only one distinct pale band at base beyond scale, rest grey or pale brown, distal half sometimes becoming paler; postero-angular setae of pronotum $12\text{--}55\ \mu$ long 16
- 16(15) Abdominal tergite vii with a complete comb on posterior margin, extending across the median part as well as the sides; postero-angular setae of pronotum only $12\ \mu$ long; posterior vein of fore wing probably without setae. (India) *graminis* Ananthakrishnan 1956
- Abdominal tergite vii not with a complete comb on posterior margin; postero-angular setae of pronotum $55\ \mu$ long; posterior vein of fore wing with one seta. (Manchuria) *epipactis* Kurosawa 1941